

Peter J. Grund. 2014. "The 'Forgotten' Language of Middle English Alchemy: Exploring Alchemical Lexis in the *MED* and the *OED*." *Review of English Studies* 65 (271): 575–595. (Accepted manuscript version; post-peer review)

## **The 'Forgotten' Language of Middle English Alchemy: Exploring Alchemical Lexis in the *MED* and the *OED***

Joining recent studies that attempt to re-evaluate the legacy of alchemy, this article explores the recording of alchemical vocabulary from the fourteenth and fifteenth centuries in the *MED* and the *OED*. By considering labeling practices in the dictionaries, the alchemical sources that they employ, and principles of inclusion and exclusion, it shows that the dictionaries give only a partial, inconsistent, and sometimes misleading picture of alchemical vocabulary in Middle English. I complement this study of the dictionaries with an investigation of an unedited fifteenth-century codex of alchemical writing, which reveals that numerous alchemical words and meanings remain unrecorded in the *MED* and *OED*.

In the past two decades, scholars of the history of science have begun to re-evaluate the legacy of alchemy. Reclaiming it from accusations of being thoroughly unscientific or pseudoscientific (judged by modern standards) and from entrenched associations with fraud, the occult, and spiritual betterment, these scholars emphasize the many contributions of alchemy to science, technology, and medicine in the medieval and early modern periods.<sup>1</sup> This reclamation should also be extended to the editing of alchemical texts in English and the study of the English language in those texts. Although numerous alchemical texts from the fifteenth through the seventeenth centuries attest to the profound interest in alchemical writings and in alchemical experimentation in late medieval and early modern England, they remain largely unedited and unstudied. Because of this lack of attention, we know very little about the strategies used by writers as they struggled to translate texts, adopt and adapt words for concepts never before expressed in English, and shape appropriate scientific discourse. All of these aspects have implications for our knowledge of the larger issues of the development of English scientific prose and the history of the language as a whole.

However, alchemy's contributions to the English language have not been completely neglected. In fact, both the *Middle English Dictionary* (*MED*) and the *Oxford English Dictionary*

(*OED*) include hundreds of words and meanings labeled as 'alchemical' (or something similar).<sup>2</sup>

However, considering the nature of the attitudes towards alchemy in the nineteenth and twentieth centuries (hinted at above) and considering what we know about the compilation of the two dictionaries (to be discussed in more detail below), the question is what kind of picture of 'alchemical vocabulary' these sources present and whether their inclusion is representative and exhaustive. This article shows that, although the coverage is impressive despite the lack of easily accessible sources, the dictionaries give only a partial, inconsistent, and sometimes misleading picture of alchemical vocabulary. I will focus in this article on the earliest stages of alchemical texts in English, the late fourteenth and fifteenth centuries, comparing the dictionaries' sources, the use of those sources, and the dictionaries' conception of alchemy as revealed through their use of field markers or labels. By providing a brief exploration of an unedited alchemical manuscript from the latter part of the fifteenth century (Cambridge, Trinity College R. 14. 37), I will also suggest that many discoveries remain to be made of the lexical resources of alchemy in the vast number of unedited texts from the fifteenth century.

With this focus, my study falls within what has recently been termed 'forensic dictionary analysis'.<sup>3</sup> More specifically, I follow Charlotte Brewer's call for more study of the *OED*'s non-literary sources, and join scholars such as Juhani Norri and R. W. McConchie in pointing to the large gaps and uneven treatment in the recording of scientific vocabulary from the late medieval and early modern periods.<sup>4</sup> Although previous scholarship on sources, principles, and strategies of the *MED* and *OED* has mainly focused on one dictionary or the other, I bring the two into close conversation, showing how exploring the strategies in one can inform our understanding of the principles of the other. I will also discuss the importance of considering the different versions of the *OED* (*OED1*, *OED2*, and *OED3*) in this regard.

### *Method and Overview of Results*

Several methodological challenges emerge in studying the *MED*'s and the *OED*'s treatment of alchemical vocabulary and especially in comparing their approaches. It may be argued that some of the findings in this study are foregone conclusions. That there would be general similarities between the two dictionaries is unsurprising, since the *MED* originally inherited a vast number of citations from the *OED* project.<sup>5</sup> At the same time, differences between the *MED* and *OED* are to be expected. When Hans Kurath took over at the editorial helm of the *MED* in 1945, the dictionary started moving away from the principles of the *OED*, which the previous editors Samuel Moore and Thomas Knott had followed, more or less strictly.<sup>6</sup> As a 'comprehensive' dictionary of English that covers all periods of the language, the *OED*'s aim is also to some extent by necessity different from that of the *MED*: while a period dictionary such as the *MED* can afford to provide very fine-grained definitions with illustrations from a number of different genres, the larger time frame of the *OED* prohibits such detail.<sup>7</sup> With a more specific goal in mind, the compilers of the *MED* thus modified the inherited *OED* material and added Middle English citations that overtook, by a wide margin, the number of citations provided by the *OED*.<sup>8</sup>

Differences between the dictionaries in their coverage of domains and genres are particularly striking, especially in terms of the treatment of scientific writings. While the *MED* included scientific material from early on (at least from the time of Kurath's editorship), the *OED*'s original principle was virtually the opposite: the compilers were not supposed to consider scientific vocabulary unless the words had 'passed out of their peculiar province into general use'.<sup>9</sup> Over time, this principle received a great deal of modification, even as early as James Murray's editorship at the end of the nineteenth century, and from early on the principle seems to

have been interpreted in different ways by different editors or subeditors.<sup>10</sup> Current practice of the dictionary is to be more inclusive in terms of 'specialized lexis', although a selection process is still in place.<sup>11</sup> The inconsistent recording of early scientific vocabulary, as shown by previous research and this study, is presumably at least partly a result of the *OED*'s early principle and the variable negotiation of it.<sup>12</sup>

Thus, although we can expect both general similarities and differences between the two dictionaries on the basis of their intertwined histories and the variation in scope and principles of compilation, the complex picture that emerges from this study cannot simply be accounted for by reference to these factors. Instead, the picture appears to reveal different as well as overlapping (though independent) responses to the difficulties involved in dealing with alchemy and alchemical texts, as well as more general issues of labeling.

Defining both the field of alchemy and what should be considered an alchemical term is a central issue for this study and for understanding the *MED*'s and *OED*'s treatment of terms and meanings that may be considered 'alchemical'. As shown below, this is not a completely straightforward issue, which is attested by the treatment in the two dictionaries. The usage label 'alchemical' (or an equivalent) is applied in the dictionaries to a wide variety of items whose relation to alchemy is beyond doubt in some cases and questionable in others. In order to provide a stable point of reference in the study, I have followed the two dictionaries' conception of alchemy in the first instance, hence limiting my initial study to those items that are explicitly labeled *alchemical* by the *MED* and/or the *OED* themselves. As a second step, I make some limited remarks on items that could be conceived of as 'alchemical' but not listed as such.

The alchemical items in the *MED* were retrieved by searching for 'alch.' in the 'label search' function in the online version at <http://quod.lib.umich.edu/m/med/>. This procedure

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resulted in 280 hits, including words that are given as exclusively alchemical (such as *cibacion* 'feeding [an alchemical process]'), and words that have one or more alchemical meanings among others (such as *bodi* 'one of the seven metallic substances or metals').

Charting alchemical vocabulary in the *OED* is less straightforward, primarily owing to its complex history. Using the Label search option, I searched the online version at [www.dictionary.oed.com](http://www.dictionary.oed.com) for the labels *alchemy*, *old chem.*, and *chem.* on Oct. 19, 2011, treating the results as representative of the *OED* at that point. The search yielded 137 hits for *alchemy*, 38 for *old chem.*, and 5,529 for *chem.*<sup>13</sup> All in all, 107 of those hits contained citations stemming from the fourteenth and fifteenth centuries.<sup>14</sup> However, it is important to realize what these results represent. As is well-known, *OED* has gone through several stages of compilation (*OED1*, *Supplements*, *OED2*), and it is still being updated and revised (*OED3*).<sup>15</sup> The online version consulted contains a mixture of *OED2* and *OED3*, and *OED2* itself primarily consists of a merging of *OED1* (published in 1884–1928) and the *Supplements* (published in 1972–1986) with very few (ca. 5,000) new additions and revisions. The online version thus represents editorial procedures and inclusions from the nineteenth through the twenty-first centuries, during which time conventions and access to sources changed drastically.<sup>16</sup> There are several implications of this fact for this study. Of the 107 labeled entries considered here, 48 (primarily in the letters M–R, but also sporadically in other letters) have been updated during the *OED3* revisions,<sup>17</sup> while 59 had not been revised at the time of the searches.<sup>18</sup> Importantly, in the *OED3* updating, a label was added in 25 of the 48 entries, where no labels were used in *OED2* (even though in most cases the entry dealing with alchemy and the citations were present); in both the previously and the newly labeled entries, additional citations have been supplied to already existing medieval material, or medieval examples have been added where no previous examples

existed.<sup>19</sup> Particularly significant about these updates is that they appear by and large to be based on the *MED*. The *MED* is even explicitly cited as the source in some citations, though not in others.<sup>20</sup> This reliance on the *MED* is not surprising: Edmund Weiner, the Deputy Editor of *OED3*, has remarked that 'no extensive reading programme has been undertaken for Middle English, although certain newly available texts are being read'; instead, the Middle English entries in the *OED3* revision rely on comparisons with and additions from the *MED* and *DOST* (*Dictionary of the Older Scottish Tongue*).<sup>21</sup> However, the *MED* evidence is evaluated, and sometimes the *OED* editors arrive at a different conclusion than the *MED* editors.<sup>22</sup> What I describe in this study is thus to some extent a snapshot that will undoubtedly change in the future, as further *OED3* changes are undertaken in light of the *MED* (or other sources). However, I will show that juxtaposing *OED2* and *OED3*, and exploring the differences and similarities between them, reveals many insights into the treatment of alchemical vocabulary.

The overview of the results from the two dictionaries presented in Table 1 reveals some striking patterns (though the mixed nature of the results from the *OED* should be borne in mind). Only 82 out of 306 total items labeled (that is, items labeled only in the *MED*, only in the *OED*, or in both) receive a label in both dictionaries. Overall, the *MED* is much likelier to label words and meanings as 'alchemical'. The number of alchemical words found in one dictionary but not the other is very small, and the number of unique items in the *OED* or the *MED* will undoubtedly shrink even further as *OED3* continues its updating, drawing heavily on the *MED*. Overall, the patterns in the table point to interesting trends in the recording and treatment of alchemical vocabulary.<sup>23</sup>

Table 1. Alchemical Vocabulary in the *MED* and *OED*

<b><i>MED</i> and <i>OED</i></b>	<b>N</b>
A label appears in both <i>MED</i> and <i>OED</i>	75
Both <i>MED</i> and <i>OED</i> include the item and label, but only <i>MED</i> has Middle English examples	7
Both <i>MED</i> and <i>OED</i> include the item, but only labeled in <i>MED</i>	76
Both <i>MED</i> and <i>OED</i> include the item, but only labeled in <i>OED</i>	21
Both <i>MED</i> and <i>OED</i> include the item, but only <i>MED</i> has the particular meaning and label	110
Both <i>MED</i> and <i>OED</i> include the item, but only <i>OED</i> has the particular meaning and label	2
Only <i>MED</i> includes the labeled item	10
Only <i>OED</i> includes the labeled item	2
Other	3 <sup>A</sup>
<b>TOTAL</b>	<b>306</b>

<sup>A</sup> 'Other' comprises examples that did not fit neatly into any of the other categories. For example, while the *MED* contains an alchemical meaning for the phrase *peacock's feathers* (*MED* s.v. *po-cok*), the *OED* has a separate lemma for *peacock's tail*.

### *To Label or not to Label?*

Part of the explanation for the significant differences between the *MED* and *OED* highlighted in Table 1 is probably to be found in the general difficulty of labeling as well as varying editorial

approaches to labeling. Providing labels for terms to show their currency in the language (whether peculiar to a particular domain, or whether proscribed in different ways) has been a perennial problem for dictionary compilers.<sup>24</sup> Interestingly, there is very little discussion of the decisions behind the application of labels in the dictionaries. The *Plan and Bibliography* for the *MED* does not discuss labeling, although most labels are included in the list of abbreviations (where 'alch.' is expanded as 'alchemy, chemistry').<sup>25</sup> The approach to editorial annotation among the different *MED* editors may also play a role in labeling. Michael Adams remarks that Hans Kurath (the head editor of A–F) put a premium on evidence rather than editorial opinion: '[t]he evidence, in Kurath's view, would speak for itself; editors, if given the chance, would speak too much and introduce error at the expense of evidence'.<sup>26</sup> The subsequent editors, Sherman Kuhn and Robert Lewis, who oversaw the publishing of G–P and R–Z, respectively, appear to have been 'less reticent' in terms of editorial annotation, according to Adams.<sup>27</sup> I have found no clear evidence that the editorial approach is a predominant factor behind the application of the label 'alch.' in the *MED*: the label appears frequently in the 'more conservative' Kurath's letters (100+) as well as in the other 'more liberal' editors' sections. The similarity in approach may perhaps stem from the general editorial principles of the project. Although not discussing labeling in particular, the unpublished editorial manual for the *MED* project mentions the problems inherent in dealing with technical vocabulary (Section 13). The typescript, written by Kurath and used by subsequent editors, emphasizes the problem of dealing with early specialized lexis and the need to be conservative in writing up definitions and to consult specialists in the field.<sup>28</sup>

The application of usage labels in the *OED* has received considerable commentary over the years. Although general principles were set forth for labeling in *OEDI* by Murray and



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reproduced by Simpson and Weiner in *OED2*,<sup>29</sup> studies have pointed to the inconsistency of the usage of labels in the various *OED* editions; all labels are not included in the list of abbreviations and signs; and no discussion has been published about the meaning or application of the labels.<sup>30</sup> In the introduction to *OED2*, Simpson and Weiner themselves remark that '[t]he usage and subject labels should be made fully consistent and modernized' in the future.<sup>31</sup> As indicated by Peter Gilliver, an associate editor of *OED3*, in 1999, '[a] terminological glossary will be included as part of the introductory apparatus to the third edition', but such a glossary has yet to be made public.<sup>32</sup>

Against this general backdrop, it is unsurprising not to find much discussion of the *OED*'s approach to subject labels such as the ones studied here (*alchemy*, *old chem.*, and *chem*). A subject label is simply said to be 'employed when the headword is derived from, or used in, a specific discipline or subject'.<sup>33</sup> Gilliver further notes that specialist dictionaries as well as specialists in the field are consulted in defining specialized vocabulary.<sup>34</sup> Such experts are also consulted for specialized historical fields, including the history of chemistry.<sup>35</sup> Of the three labels, only *chem.* is included in the list of abbreviations in *OED2*, glossed as 'in Chemistry'.<sup>36</sup> In the absence of explicit and detailed treatment of labeling practices, the way the label 'alchemy' has been applied affords insight into principles of the *MED* and *OED*.

Fundamental to the issue of labeling is also the problem of delimiting the field of alchemy. In the Middle Ages, alchemy was often associated with astrology/astronomy and had close connections with medicine. Numerous alchemical texts from the period claim medical applications of their procedures and especially of the coveted philosophers' stone, whose primary purpose was to convert base metals into silver or gold. Some texts are explicitly medico-alchemical, without a discussion of transmutation of metals.<sup>37</sup> Even thornier is alchemy's

relationship to metallurgical practices that involved minerals and metals but did not aim to produce noble metals. Plenty of manuscript evidence survives showing that such areas were included within the complex of approaches considered 'alchemical'. With these overlaps and unclear boundaries, delimiting the field of alchemy can be difficult.<sup>38</sup>

This difficulty appears to be reflected in the labels of the two dictionaries and their application. The *MED*'s double gloss of the label 'alch.' as 'alchemy, chemistry' (noted above) suggests that the compilers recognized the uncertainty of what alchemy entailed in the period: alchemy covered alchemical pursuits of transmutation (which is how the term alchemy is commonly understood nowadays) and approaches that appear closer to our modern conception of the science of chemistry, without aspects of transmutations. This certainly seems to be true in the cases where the only citations for an item labeled as alchemical come from a medical text, lapidary, or a similar work that appears to describe a medico-alchemical or pharmacological use of a substance or procedure.<sup>39</sup> The *MED* also uses multiple labels in some contexts, where 'alch.' is used in combination with 'med.' ('medicine') and/or 'phys.' ('physiology').<sup>40</sup> Such usage further underscores the intersection of alchemy with various other disciplines and their shared vocabulary.<sup>41</sup>

The *OED*'s labeling practices often differ significantly from the *MED*'s, which may point to a different conception of alchemy. The *OED* employs three labels: 'alchemy' (eighty-nine times), 'old chem.' (seven), and 'chem.' (eighteen). Of these instances, some are used in combination: 'alchemy' and 'chem.' (six) and 'alchemy' and 'old chem.' (once). Although this variation could be taken to indicate that each in fact designates a separate area, especially since some of the labels can be combined, that does not appear to be the case, at least not completely. The overlap in meaning of the labels is suggested by the fact that all three occur with words that

the *MED* designates as alchemical (even in *OED2* entries that have not been revised on the basis of the *MED*). Furthermore, the currency of these labels has clearly changed over time: all the instances of 'old chem.' appear in *OED2*, while the *OED3* has changed several 'old chem.' to 'alchemy' and/or 'chem.'.<sup>42</sup> This updating suggests that 'old chem.' and 'alchemy' overlapped or designated the same area in earlier versions on the *OED*. The label 'chem.', on the other hand, appears to have a slightly different purpose, esp. in *OED3*. The great majority of items designated with 'chem.' show continued use from the fifteenth century into the nineteenth and twentieth centuries when the modern science of chemistry had more firmly developed away from alchemy, in the sense of transmutation.<sup>43</sup> Consequently, although the term or usage originated in alchemical texts, its continuation in chemistry may have triggered the label. Supporting evidence comes from the use of the label 'alchemy'. Except when they also receive the label 'chem.', entries designated as alchemical as a rule do not contain citations after the mid-eighteenth century.<sup>44</sup>

The compilers of the *MED* appear to have been more inclined to add a label if a lexeme is found exclusively in one or more alchemical texts, even if the connection to alchemy is not certain. That is, there is nothing in the nature of the lexeme that reveals it as alchemical other than its appearance solely in alchemical texts. This is the case of *receptory* ('a containing vessel, a receiver'). The alchemical meaning has one attestation in the *MED* in an alchemical text. While *OED2* did not include any pre-1500 examples for this entry, *OED3* updates on the basis of *MED* and incorporates *MED*'s lone example, but foregoes the label. The reason for this decision appears indeed to have been that the alchemical status of the word is uncertain.<sup>45</sup> A similar case is probably found in the complementary words *diptative*, *triptative*, and *tetraptative* 'consisting of two, three, or four parts respectively', found only in George Ripley's *Compound of Alchemy*.

Whether or not these terms are particularly alchemical is not clear from the context. The *OED*, which includes *tetraptative* but omits the other two, has no label, perhaps in recognition of the unclear status of the word. In this case, the *OED* entry remains unrevised since 1911, and it is unclear whether the *OED3* editors would follow the *MED*.

Frequently, it is difficult to determine why a label has been left out in one or the other dictionary, or indeed why both dictionaries have omitted a label, especially in light of the similarity between the words that are labeled and not labeled. The words *elixir* (*OED2*) and *adrop* (*OED3*) (the latter probably a constituent part of the philosophers' stone), for example, are labeled in the *OED* as alchemical. The *MED*, which contains similar definitions and only cites texts on alchemy or dealing with alchemy, does not provide labels. A possible reason is that the definition makes clear that the usage is alchemical. *Adrop*, for example, is defined as 'some alchemical substance'.<sup>46</sup> It is notable here that *OED3* diverges from the *MED* by adding a label, although it draws upon the *MED* as can be seen in the citation of sources. The *MED* includes forty-four items that are signaled as alchemical in their definitions, but left without an explicit label. At the same time, in thirty cases, the definition mentions alchemy and the label is nonetheless applied, hence pointing to some inconsistency in the usage.<sup>47</sup> Similar instances where there is no label but a clarification of the domain-specific nature in the definition occur infrequently in the *OED*. In particular, a number of words beginning with *ex-* (all from *OED2*) receive this treatment, which perhaps reveals the approach of a particular subeditor.<sup>48</sup>

Both dictionaries often leave out the label for what is arguably a term that pertains to alchemy: a search for some very common, central words in alchemical texts reveals a lack of label, as for *amalgam*, *coagulation*, *confixation*, *corrosive*, *corruption*, *rotumbe*, and *spiritual*. Several factors could be in play in such omissions. It may simply be that the compilers for

whatever reason determined that there was not enough evidence of the word's alchemical status.

In the *MED* project, a consideration that the evidence was enough for a reader to conclude that the usage was indeed alchemical may have been sufficient to leave out a label. Michael Adams shows that the *MED* editor Hans Kurath held the opinion that, if the evidence itself was convincing in demonstrating a particular pattern, the scholarly reader of the *MED* should be able to form his/her own opinions from the evidence without any editorial comment being necessary.<sup>49</sup> Although the impact of such a principle on the omission of labels cannot be ruled out, it is difficult to evaluate it fully: it would involve producing exact statistics of how many 'alchemical' words or meanings 'should' have been labeled but are not, which is of course fraught with problems and hence not attempted here.

### *To Include or not to Include?*

Not surprisingly, each dictionary contains alchemical words and meanings that are not found in the other. However, it is very rare for lexemes to be exclusive to one dictionary. The *MED* has ten such lexemes (ranging in the alphabet between letters revised and unrevised in *OED3*) and the *OED* two. The more striking figures emerge when we consider how often a meaning of a particular lexeme is attested (and labeled) in one but not in the other: the *MED* has 110 such items (again covering both lemmas that have been updated and lemmas that remain to be updated in *OED3*), while the *OED* has two. Several factors appear to underpin these figures.

The two dictionaries exhibit radically different trends in their treatment of a quintessential aspect of alchemical language: the use of figurative language. Alchemical texts frequently employ a variety of such strategies, including symbols such as *the dragon eating his own wings*, which designates the process of purification or sublimation; 'deck namen' (or cover

terms), such as *Mars* for the metal iron; and more overarching uses of allegory.<sup>50</sup> The *MED* frequently includes and labels such figurative senses as alchemical, as in *bird* 'a volatile substance', *sister* 'a like or attractive substance', and *venom* 'an acid(?)'.<sup>51</sup> The *OED*, on the other hand, very rarely includes such figurative senses from alchemy, although it usually contains the lemma and often includes other figurative uses. This holds true for *OED2* as well as *OED3*.<sup>52</sup> A rare exception is *red man* ('a substance regarded as the male principle or parent of metals, usually identified with sulphur'), which the *OED* even treats as a separate lemma, although lumping it together with various other unrelated meanings; the *MED* includes it under the lemmas *man* and *red*. This rare exception in the *OED* (found in *OED2*, and *OED3* with updates from the *MED*) may stem from the fact that the *red man* is one of the most common alchemical tropes, and it usually receives a great deal of attention in present-day descriptions of alchemy and alchemical language, as shown by the *OED*'s citations.

While the recording of instances of figurative language accounts for some of the differences between the dictionaries, the reason for other differences must be sought elsewhere. In general, the *MED* has a greater penchant for seeing specialized alchemical meanings in normal vocabulary than the *OED*, which often records a similar, but not specifically alchemical sense. This is the case for, for example, *degree*, *proportion*, and *reiterate*, which the *MED* records with the alchemical senses 'a degree of color or heat', 'the ratio of one element to another in a compound or a mixture', and 'to bring back, reinduce', respectively.<sup>53</sup> The *OED* contains comparable entries, although not framed or differentiated as alchemical, even though it sometimes uses the same sources. Again, the *OED3* compilers are not following the *MED* slavishly in this regard, as *proportion* and *reiterate* have been updated without an addition of the alchemical senses recorded by the *MED*. The greater number of items designated as alchemical

in the *MED* is perhaps attributable to the compilers' notion that elaborate and specific subdivisions are necessary in a dictionary such as the *MED*: '[...] the *MED* is a period dictionary dealing in depth with a restricted period of time for which a number of quotations per century (at least four if available, and usually more) have been used as illustration, and our sense distinction and division are therefore quite detailed and elaborate'.<sup>54</sup> However, the *OED*'s more general perspective may have influenced its classification, as it considers a broader set of texts and a longer development of the word than does the *MED*.

#### *What Counts as an Alchemical Source?*

The two dictionaries draw on a very limited number of texts for items that they designate as alchemical, and the number of sources that are cited ten times or more is very restricted: the *MED* has seven frequent sources, while the *OED* uses five sources ten times or more. The *MED* draws heavily on the two lengthy late-medieval alchemical poems the *Compound of Alchemy* by George Ripley (200+ citations) and the *Ordinal of Alchemy* by Thomas Norton (150+ citations), followed by the *Book of Quintessence* (ca. seventy citations), Geoffrey Chaucer's *Canon's Yeoman's Tale* (ca. seventy citations), John Gower's *Confessio amantis* (ca. thirty citations), Singer's *Catalogue of Incipits* (ca. thirty citations), and another poem attributed to George Ripley, *The Epistle to Edward IV* (ca. twenty citations), which often accompanies the *Compound*. The *OED*'s main sources are very much the same, although the number of citations is drastically fewer, ranging from about forty citations from Ripley's *Compound* to ten from Gower's *Confessio amantis*. Although part of the reason for the discrepancy in the number of citations lies in the greater number of alchemical items in the *MED*, it is also attributable to the practice in the *MED* of citing multiple instances from the same source in the entries.<sup>55</sup>

Of the changes that *OED3* has undertaken in terms of the entries labeled *alchemy*, the updates in source citations are probably the most extensive, usually modeled on the entries in the *MED*. The 48 *OED3* entries frequently include pre-1500 citations that did not exist in *OED2*, as in the case of *moon*, *projection*, *rectification*, and *revive*. The entries may also add to already existing medieval material, as in *adrop* and *reverberation*. However, only infrequently does *OED3* incorporate more than one or two citations, while the *MED* may present multiple instances. In a few cases, *OED3* even replaces already existing Middle English examples with other citations (e.g. *multiplication*). Most notably, the *OED3* updates closely follow the *MED* in citing early manuscripts of texts rather than later editions (e.g. *menstrual*, *precipitation*, and *putrefy*).

The commonly-cited as well as the less-frequently-cited sources can be divided into several categories depending on their relationship to alchemy. Most of the frequent sources are alchemical treatises that outline the theories and practices of alchemical pursuits (in particular metallic transmutation). These sources include the two texts by George Ripley, Norton's *Ordinal*, and *The Book of Quintessence*. There are similar texts among the less common sources, including a number of alchemical poems (about which more below).

The second category of texts is different in that alchemy is only described or depicted: this is where the *Canon's Yeoman's Tale* and the *Confessio amantis* fit in,<sup>56</sup> together with other literary texts from the period that use words belonging to alchemy, often in allusions, puns, or allegories (including works by Capgrave and Lydgate). Encyclopedic texts such as Trevisa's *On the Properties of Things* and Lydgate and Burgh's version of the *Secreta secretorum* can also be assigned to this category. Unlike the literary texts, their approach to alchemy is one of informing or educating readers about what alchemy as a 'science' or art entails. With this very general



focus, they also differ from the texts of the first category, which advance an alchemical agenda or describe alchemical procedures.

The prominence of literary texts in the citations is conspicuous, and their frequency may provide an explanation for why alchemical vocabulary has received a fair amount of attention in the *OED*. Somewhat surprisingly, Ripley's *Compound*, Norton's *Ordinal*, and the *Book of Quintessence* all seem to have been read and excerpted as early as the late 1850s or early 1860s.<sup>57</sup> Frederick Furnivall, who was one of the founding fathers of the *OED* and who undertook a great deal of work at the early stages of the dictionary,<sup>58</sup> even edited the *Book of Quintessence* in 1866. Although Furnivall edited numerous texts for the Early English Text Society, which he founded in order to provide the *OED* with suitable citation material, his undertaking was the more remarkable as his edition remains one of only two editions of alchemical texts to be published by the society thus far.<sup>59</sup> Part of the reason for the attention to alchemical texts may have been because alchemy was treated in the golden-age writers Chaucer and Gower, whose work frequently contains the first attestations of words and meanings that are later found in texts that deal with alchemy.<sup>60</sup> These 'literary' uses may have paved the way for the extensive excerpting that we find from Norton and Ripley in particular, as the principle of not considering scientific words did not pertain to items that '[had] passed out of their peculiar province into general use' or 'such as [were] found in works of general literature'.<sup>61</sup> Naturally, this does not completely explain why distinctly alchemical items from Norton and Ripley that are not recorded in 'general use' made it into the dictionary. Perhaps the inclusions should be attributed to 'over-zealous' readers who did not restrict themselves to excerpting words that had made it into 'general literature', or perhaps to editors who had a liberal interpretation of the principle prohibiting overly specialized uses.

The final category consists of medical texts (primarily by authorities such as Lanfranc, Chauliac, and Arderne), which are sometimes cited as the exclusive sources of alchemical vocabulary, especially in the *MED*. The connection to alchemy in these cases is not always clear: the citations usually show the use of metals or minerals in various medicines or the adoption of 'alchemical' processes such as sublimation and distillation for medical purposes.<sup>62</sup> The conception of alchemy here is obviously quite broad, as discussed earlier in connection with labeling.

Taken as whole, the corpus of writings that the dictionaries cull overwhelmingly consists of texts in verse.<sup>63</sup> Among the seven primary texts, only the *Book of Quintessence* and Singer's *Catalogue* are in prose.<sup>64</sup> This has undoubtedly had an impact on the types of words that have been recorded in the dictionaries. For example, figurative language tends to be much more common in verse texts than in prose texts, while some of the vocabulary characteristic of recipes and other instructional prose texts are not as commonly attested or not attested at all (see below). There are also peculiarities about the prose texts that the two dictionaries do consult. The *Book of Quintessence* is a medico-alchemical work, whose main goal is the production of a 'quintessence' (or high-proof alcohol) for therapeutic use. Hence, it is perhaps only natural that it does not include vocabulary that is characteristic of texts that deal with the central topic of alchemical transmutation. In addition, the *MED*'s mining of Singer's *Catalogue* for alchemical items is peculiar but also quite telling.<sup>65</sup> Singer's work is not an edition per se, but a catalogue of the first ten to fifteen words of alchemical texts, primarily from the fifteenth century, which is meant to be a tool for identifying texts. The use of Singer's *Catalogue* is perhaps an indication of the *MED* compilers' recognition that more evidence from prose texts was needed for a more balanced view of alchemical terminology. Singer's *Catalogue* provided a convenient, if

somewhat unorthodox, source of a wide range of prose texts, which would otherwise have been inaccessible owing to their appearance in widely dispersed manuscripts.

The predominance of verse texts among the two dictionaries' sources and the peculiar selection of prose texts can partly be accounted for by considering previous research on alchemical texts. Prose texts surviving in Middle English far outweigh verse texts. At the same time, more editorial attention has been paid to the smaller corpus of verse texts (although the attention can still only be described as minimal considering the number of extant texts).<sup>66</sup> Indeed, much of the editorial and critical attention to the verse texts over the years seems to stem from the fact that many of them were made available as early as the seventeenth century by Elias Ashmole. In his 1652 *Theatrum Chemicum Britannicum* (TCB), Ashmole provided editions of many fifteenth-century texts in print, including those by Ripley, Norton, and even Chaucer's *Canon's Yeoman's Tale* and extracts from Gower's *Confessio amantis*. Although Ripley's *Compound* and Norton's *Ordinal* now exist in modern editions,<sup>67</sup> and the works by Chaucer and Gower have received numerous editions, the only available edition for some of these poems is still Ashmole's TCB (which has been reprinted many times) for scholars without access to the original manuscripts. In fact, the *OED* frequently cites the TCB when it draws on Ripley's or Norton's works, and in the very few cases when it cites some of the anonymous works.<sup>68</sup> While most references to the TCB occur in *OED2*, *OED3* frequently replaces the TCB with a manuscript source (especially for Ripley's and Norton's works) drawn from the *MED*'s citations.<sup>69</sup>

In addition to relying on previous editions, the *MED* compilers frequently went beyond editions to consult original manuscripts. This is certainly evident in the case of alchemical texts: even in some of the very few cases where an edition existed, the compilers returned to the

original manuscripts, most likely because of the availability of a manuscript that is earlier than the one edited.<sup>70</sup> The *MED* uses the TCB sparingly (thirty-four citations in the whole dictionary), perhaps restricted to instances where the item is not found in a manuscript. Understandably, the *MED* does not venture much beyond finding manuscript sources for the texts that Ashmole edits in TCB. This is particularly obvious in terms of prose texts. Indeed, the manuscripts that the *MED* cites (including Oxford, Bodleian Library, Ashmole 1486 and Ashmole 759) contain various alchemical prose texts in addition to the verse treatises by Ripley and Norton, but these are not excerpted.<sup>71</sup> Here, the unresearched and hence unknown identity and status of the prose texts was presumably a disincentive. Indeed, if there was not clear evidence that a text hailed from before 1500, the *MED* editors would not consider it.<sup>72</sup> Irrespective of the actual motivation, it does leave the *MED* (as well as the *OED*) with a heavy emphasis on verse texts, and hence a particular emphasis on vocabulary that is potentially restricted to alchemical verse.

### *What Is out There?*

Considering the limited number of editions of alchemical texts available and the very particular nature of the texts that the editions present (predominantly verse texts, mostly those printed in Ashmole's TCB), it should come as no surprise that a considerable number of words and meanings that can be taken to be representative of alchemy remain unrecorded in or antedate one or both of the dictionaries. Naturally, an exhaustive list is not possible, but I will point to the potential for new findings by exploring the vocabulary of one unedited late Middle English manuscript: Cambridge, Trinity College R. 14. 37. Probably compiled sometime in the second half of the fifteenth century, MS R. 14. 37 is structured as a long alchemical compendium consisting of 351 chapters (ca. 55,000 typed-up words). More than fifty texts are included, many

of which are not recorded elsewhere in Middle English. MS R. 14. 37 shows many alchemical items that are already recorded in the two dictionaries, primarily from Ripley's *Compound* and Norton's *Ordinal*. Since MS R. 14. 37 cannot be dated precisely, it is unclear whether it antedates Ripley's and Norton's works, whose alleged dates of completion were 1471 and 1477, respectively.<sup>73</sup> Because of this uncertainty, I will concentrate on clear antedatings (that is, when the item is recorded in the *OED* from the sixteenth century or later, and not attested in the *MED* at all), but it should be born in mind that MS R. 14. 37 may antedate many attestations from Ripley and Norton.

All in all, MS R. 14. 37 yields some hundred meanings or lexemes that either do not occur in or antedate the *MED* and *OED*. At this point, the figure is inexact for a number of reasons. There are items that I have been unable to identify confidently as new words: they may constitute misinterpretations or mistranscriptions by the scribe. For example, 'Agranor' (f. 69v) is possible to interpret as a version or misinterpretation of *athanor* 'a digesting furnace'.<sup>74</sup> Other words simply remain uncertain since their meaning and possible etymology are as yet undetermined. The word *tryconyze/triconyze*, which occurs twice in MS R. 14. 37 (ff. 47v, 48v), falls in this category.

Alchemical items in the Trinity codex that provide new records of words or meanings, or that antedate previously attested words, can be categorized in various ways. For the purpose of this article (which is to illustrate the type of alchemical items unrecorded in the dictionaries), I will limit myself to an overview. The vast majority of lexemes from MS R. 14. 37 that have not previously been recorded in dictionaries derive from Latin (although some of them originally stem from Greek or Arabic). This is not surprising. In the fifteenth century in particular, scribes and translators of alchemical texts appear primarily to have translated and reworked Latin texts;

few writings are original English compositions, with the possible exception of alchemical recipes and some alchemical poems. Mostly in the form of the open word classes nouns, verbs, and adjectives, these newly attested items primarily fall within three broad categories:

- 1) procedures or processes: 'lunyfyng' and 'svnnyfyng' ('process of turning [something] into silver or gold', respectively; f. 35v), 'inggement' ('doubling, multiplication'; ff. 35r, 35v, 93v, 111v, 112v), 'incere'/'encere' ('turn into a waxlike or liquid state'; ff. 6v, 84v, 114r), 'Calcynatyf' ('calcinating, related to calcination or roasting of a metal'; f. 51v).
- 2) substances or qualities of substances: 'terrestrynite' ('earthiness'; f. 62v), 'retynacle' ('substance that restrains a volatile 'spirit'; f. 119r), 'Edanyk'/'ebdanyc' ('iron'; ff. 59r, 60r),<sup>75</sup> 'Azmar' ('flower of copper or burnt copper, i.e. copper oxide'; f. 119).<sup>76</sup>
- 3) equipment: 'kymie' ('vessel used in distillation'; f. 57v),<sup>77</sup> and 'Cynericion' ('a vessel used for heating gold or silver'; f. 46v).<sup>78</sup>

A perennial problem involving words derived from Latin in texts from earlier stages of the English language is whether the word should be considered a true borrowing or a code switch. In medieval England, English shared the stage especially with French and Latin, and switching between the languages was common, which is attested in a number of texts from the period, including scientific writings.<sup>79</sup> The status of a particular word as a borrowing or code switch should ideally be evaluated within a larger corpus of texts. However, the words listed above (and others) in MS R. 14. 37 are best interpreted as borrowings rather than code switches, even if the borrowings are peculiar to this particular manuscript. Unlike many other codices that contain alchemical texts in English, MS R. 14. 37 rarely contains Latin. Indeed, the consistent

and persistent use of English suggests that the volume was primarily intended for a reader with little knowledge of Latin, at least of the technical kind found in alchemical texts. Previously unrecorded words of English origin are rare and primarily consist of new word formations using strategies inherent in English, such as 'ertheshipē' ('earthy quality') and 'brannynschip' ('fiery/burning quality') (f. 120v).

For previously recorded words, MS R. 14. 37 provides specific alchemical senses that have not been attested before, although one or both of the dictionaries may list similar senses. This is the case for, for instance, 'cere' ('to turn something into a waxlike or semiliquid condition'; ff. 37v, 49v, 61r, etc.), which is recorded in the *MED* with the meaning 'to impregnate with wax or a sealing compound, waterproof' or 'to wrap (a corpse) in an impregnated winding sheet', and in the *OED* as 'to smear or cover with wax, to wax' and similar meanings.<sup>80</sup>

Antedatings of the *OED* (when the word or meaning is not recorded in the *MED*) are as common as the previously unrecorded items. Although MS R. 14. 37 provides some antedatings of items of English origin, the lexemes concerned primarily derive from Latin. Most antedatings extend the history of the word or meaning back 200-250 years. That antedatings should fall within this time frame is not completely unexpected. The printing of alchemical texts was limited before the seventeenth century, and did not expand until the second half of that century.<sup>81</sup> It is these late seventeenth-century sources that the *OED* readers consulted in particular. The table below provides illustrative examples of the type of antedatings (of *OED2* as well as *OED3*) present in MS R. 14. 37 from early as well as late in the early modern period (the *MED* is left out of the table since the words or meanings do not occur there).

<b>MS. R. 14. 37</b>	<b>Meaning</b>	<b><i>OED</i> (first record)</b>
sulphurite (ff. 3r, 62r)	'sulfurousness'	s.v. <i>sulphurity</i> (1650)
rubyficion (ff. 21, 60v)	'the process of transforming a substance to a state of redness'	s.v. <i>rubification</i> (1592)
ignicion (f. 22r)	'action of subjecting to the full action of fire'	s.v. <i>ignition</i> (1617)
lutacion (f. 23r)	'the process of luting'	s.v. <i>lutation</i> (1611)
assacion (f. 36r, 56r, 59v)	'roasting, burning'	s.v. <i>assation</i> (1605)
fusyon (f. 37v)	'rendering liquid', 'state of fluidity'	s.v. <i>fusion</i> (1555)
cementacion (f. 46v)	'the process by which one solid is made to penetrate and combine with another at a high temperature'	s.v. <i>cementation</i> (1592)
Calcynable (f. 52r)	'capable of being calcined'	s.v. <i>calcinable</i> (1652)
Anatren (f. 60v)	'native carbonate of soda'	s.v. <i>anatron</i> (1706)
puluerizable	'capable of being	s.v. <i>pulverizable</i> (1659)



	pulverized or reduced to powder'	
Stillacions (f. 122r)	'distillations'	s.v. <i>stillation</i> (1623)
sublymatorie (adj.) (f. 113r)	'used in sublimation'	s.v. <i>sublimatory</i> adj. (the word 1605; this meaning 1650)
Calcynatorie (f. 140r)	'vessel used for calcination'	s.v. <i>calcinary</i> (1730)
helm (f. 154r)	'head or cap of an alembic or retort'	s.v. <i>helm</i> (1594)

Like words that have not been previously attested in the two dictionaries, the antedatings concern the open word classes nouns, adjectives, and verbs in particular, and they pertain to the categories of substances, equipment, and procedures. The dictionaries' primary reliance on alchemical texts in verse may account for the absence of such vocabulary, as the verse texts tend to be less practical in nature. Naturally, a larger corpus of writings is needed to determine the currency of the words in the fifteenth century and their possible continued use into the sixteenth and seventeenth centuries.

### *Concluding Remarks*

The *MED* and the *OED* contain a wealth of information on alchemical vocabulary in English from the fourteenth and fifteenth centuries. At the same time, the results of this study make clear that, although they are a good starting point, the two dictionaries cannot be used uncritically as sources for a comprehensive reconstruction of this vocabulary. With their varying principles of

inclusion, the dictionaries provide us with complementary pictures rather than a unified picture of alchemical words and meanings, and they seem best consulted in tandem rather than in isolation.

An awareness of the dictionaries' strategies of labeling and their reliance on a small number of sources is also necessary in approaching this domain-specific terminology. While the *MED* has a penchant for providing detailed sub-senses (in accordance with its aim as a period dictionary), the *OED* is much more restrictive, and its categorization and labeling is arguably influenced by its coverage of a longer time frame. Although the labels provide us with an easy access point to alchemical vocabulary, an exploration must extend beyond these labels, because they appear to have been applied inconsistently and perhaps even inappropriately (depending on the definition of 'alchemy'). In the case of the *OED*, many of the inconsistencies in labeling use stem from *OED2* (and hence *OED1*), while *OED3* is streamlining this usage to a large degree, although not always agreeing with *MED*'s classifications. The re-evaluation of alchemy among scholars of the history of science may lead to further shifts in the future in how we understand the domain of alchemy and its boundaries. Such shifts will inevitably bring the dictionaries out of line with current conceptions of alchemy and perhaps with each other. However, while the completion of the *MED* leaves the dictionary static (unless updates are made in the future in one form or another), *OED3* has the opportunity to follow new developments.

Most importantly, my study of MS R. 14. 37 reveals that numerous lexemes and meanings still remain unrecorded. These are especially to be found in texts that fall outside alchemical poetry, the main type of source drawn on by both dictionaries. Many new discoveries are thus to be expected in the future once alchemical texts are more thoroughly explored. Such studies would be facilitated greatly by more editions of alchemical texts from the fifteenth

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century. Indeed, there is a close connection between editing, dictionary making, and advances in the study of alchemy: more editions will supply dictionaries with new words or new attestations of old words; the collection, categorization, and definition of these alchemical words will provide us with greater linguistic context for the language used in the limited texts that have so far been easily accessible. Scholars of the history of alchemy will undoubtedly benefit from this enhanced understanding of the lexical resources of alchemy, at the same time as they contribute to it through their studies of the newly edited texts. There is thus great potential for fruitful cross-fertilization between the study of alchemical language, lexicography, and the historiography of alchemy.

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<sup>1</sup> William R. Newman and Lawrence M. Principe, 'Alchemy vs. Chemistry: The Etymological Origins of a Historiographic Mistake', *Early Science and Medicine*, 3 (1998), 32–65; Lawrence M. Principe and William R. Newman, 'Some Problems with the Historiography of Alchemy', in W. R. Newman and A. Grafton (eds), *Secrets of Nature: Astrology and Alchemy in Early Modern Europe* (Cambridge, MA, 2001), 385–431; William R. Newman, *Promethean Ambitions: Alchemy and the Quest to Perfect Nature* (Chicago, 2004).

<sup>2</sup> *MED* = *Middle English Dictionary* <<http://quod.lib.umich.edu/m/med/>> accessed Oct. 2011–2012; *OED* = *Oxford English Dictionary* <<http://www.oed.com/>> accessed Oct. 2011–2012.

<sup>3</sup> Julie Coleman and Sarah Ogilvie, 'Forensic Dictionary Analysis: Principles and Practice', *International Journal of Lexicography*, 22 (2009), 1–22.

<sup>4</sup> Charlotte Brewer, 'OED Sources', in L. Mugglestone (ed.), *Lexicography and the OED: Pioneers in the Untrodden Forest* (Oxford, 2000), 40–58; 56; Juhani Norri, *Names of Sicknesses in English, 1400–1550: An Exploration of the Lexical Field* (Helsinki, 1992); Juhani Norri, *Names of Body Parts in English, 1400–1550* (Helsinki, 1998); Juhani Norri, 'Entrances and Exits in English Medical Vocabulary, 1400–1550', in I. Taavitsainen and P. Pahta (eds), *Medical and Scientific Writing in Late Medieval English* (Cambridge, 2004), 100–43; R. W. McConchie, *Lexicography and Physicke: The Record of Sixteenth-Century English Medical Terminology* (Oxford 1997). For studies on the *OED*'s coverage and biases see (among others) the seminal work by Jürgen Schäfer, *Early*

*Modern English Lexicography*, 2 vols (Oxford, 1989); Dennis Taylor, *Hardy's Literary Language and Victorian Philology* (Oxford, 1993); and work by Charlotte Brewer, including 'The Use of Literary Quotations in the *Oxford English Dictionary*', *Review of English Studies*, 61(2010), 93–125; "'Happy Copiousness"? *OED*'s Recording of Female Authors of the Eighteenth Century', *Review of English Studies*, 63 (2012), 86–117.

<sup>5</sup> David Jost, 'The Reading Program of the Middle English Dictionary: Evaluation and Instructions', *Dictionaries*, 6 (1984), 113–27: 114.

<sup>6</sup> Michael Adams, 'Phantom Dictionaries: The *Middle English Dictionary* before Kurath', *Dictionaries*, 23 (2002), 95–114: 100, 110; Michael Adams, 'The Period Dictionaries', in A. P. Cowie (ed.), *The Oxford History of English Lexicography* (Oxford, 2009), 326–52: 337.

<sup>7</sup> Cf. Robert E. Lewis (ed. in chief), *Middle English Dictionary: Plan and Bibliography*, 2<sup>nd</sup> edn (Ann Arbor, 2007); Adams, 'Phantom Dictionaries', 99; Adams, 'The Period Dictionaries', 326.

<sup>8</sup> Jost, 'The Reading Program'; David Jost, 'Survey of the Reading Program of the *Middle English Dictionary*', *Dictionaries*, 7 (1985), 201–13.

<sup>9</sup> R. C. Trench [et al.], *Canones Lexicographici; or Rules to be Observed in Editing the New English Dictionary of the Philological Society* (London, 1861), 4, as cited in Michael Rand Hoare and Vivian Salmon, 'The Vocabulary of Science in the *OED*', in L. Mugglestone (ed.), *Lexicography and the OED: Pioneers in the Untrodden Forest* (Oxford, 2000), 156–71: 158; see also Lynda Mugglestone, *Lost for Words. The Hidden History of the Oxford English Dictionary* (New Haven, 2005), 117–8.

<sup>10</sup> Mugglestone, *Lost for Words*, 121; Hoare and Salmon, 'Vocabulary', 160–3; Peter M. Gilliver, '188. Specialized Lexis in the *Oxford English Dictionary*', in L. Hoffmann, H. Kalverkämper, H. E. Wiegand, with C. Galinski and W. Hülsen (eds), *Languages for Special Purposes : An International Handbook for Special-Language and Terminology Research* (Berlin, 1998), 1676–84.

<sup>11</sup> Gilliver, 'Specialized Lexis', 1677–82; *OED Introduction* <<http://www.oed.com/public/oed3preface/preface-to-the-third-edition-of-the-oed#scientific>> as accessed Oct. 2012.

<sup>12</sup> McConchie, *Lexicography*; Norri, *Names of Sicknesses*; *Names of Body Parts*; 'Entrances and Exits'.

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<sup>13</sup> There are other labels that partly overlap with *alchemy/chem./old chem.*, such as *Hist. sci.*, but I have not considered this broader label here. Some *OED2* entries have the label *Alch.* However, all such instances seem to have been revised to *alchemy* in *OED3*, and a label search for 'alch' yields no instances.

<sup>14</sup> No items labeled *alchemical* precede the fourteenth century.

<sup>15</sup> Mugglestone, *Lost for Words*; Charlotte Brewer, *Treasure-House of the Language: The Living OED* (New Haven, 2007).

<sup>16</sup> See Brewer, "'Happy Copiousness'", 87–8; Brewer, *Treasure-House*, esp. Ch. 8; John Algeo, 'The Emperor's New Clothes: The Second Edition of the Society's Dictionary', *Transactions of the Philological Society*, 88 (1990), 131–50.

<sup>17</sup> The *OED3* revising started at the letter M in March 2000; Brewer, *Treasure-House*, 238–9.

<sup>18</sup> The full *OED2* used to be available as a separate link at [www.oed.com](http://www.oed.com), but has unfortunately been removed (see <http://oed.hertford.ox.ac.uk/main/content/view/431/481/>). Fortunately, the online version of the *OED* makes it possible to verify whether information was available in *OED2*, as it includes a convenient link to the 'previous version' for each updated entry.

<sup>19</sup> E.g. *OED* s.vv. *rotation* and *oil*.

<sup>20</sup> Cf. e.g. *OED* s.vv. *projection* and *reverberation*, and *OED* s.vv. *magnesia* and *rotation*.

<sup>21</sup> Edmund Weiner, 'Medieval Multilingualism and the Revision of the *OED*', in D. A. Trotter (ed.), *Multilingualism in Later Medieval Britain* (Cambridge, 2000), 169–74: 170; see also Brewer, *Treasure-House*, 253; <http://oed.hertford.ox.ac.uk/main/content/view/155/322/index.html>. None of the alchemical entries appears to have been updated on the basis of *DOST*.

<sup>22</sup> Philip Durkin, p.c. June 2013.

<sup>23</sup> All the categories concern exclusively Middle English examples unless otherwise stated.

<sup>24</sup> Lynda Mugglestone, 'Labels Revisited: Objectivity and the *OED*', *Dictionaries*, 21 (2000), 22–36: 22; see also Mugglestone, *Lost for Words*, 158–62; Juhani Norri, 'Regional Labels in Some British and American Dictionaries', *International Journal of Lexicography*, 9 (1996), 1–29; 'Labelling of Derogatory Words in Some British and American Dictionaries', *International Journal of Lexicography*, 13 (2000), 71–106; Joan Houston Hall, 'Forum:

Dialect Labeling in Dictionaries. Introduction', *Dictionaries* 18 (1997), 94–6; articles included in the 'Forum' in *Dictionaries*, 18 (1997).

<sup>25</sup> Lewis, *Middle English Dictionary*.

<sup>26</sup> Adams, 'The Period Dictionaries', 342; Adams, 'Phantom Dictionaries'.

<sup>27</sup> Adams, 'The Period Dictionaries', 343–4.

<sup>28</sup> I am grateful to Michael Adams for pointing out the possibility of editorial variability and for providing me with copied pages from the unpublished editorial manual (p. c. Jan, 2013).

<sup>29</sup> Charlotte Brewer, 'Authority and Personality in the *Oxford English Dictionary*,' *Transactions of the Philological Society*, 103 (2005), 261–301: 264; John Simpson and Edmund Weiner, *The Oxford English Dictionary*, 2<sup>nd</sup> ed. (Oxford, 1989). See also R. W. Burchfield, 'The Treatment of Controversial Vocabulary in *The Oxford English Dictionary*,' *Transactions of the Philological Society*, 1973 (1974), 1–28; Gilliver, 'Specialized Lexis', 1677–8.

<sup>30</sup> See e.g. Taylor, *Hardy's Literary Language*, 131–6; Brewer, 'Authority and Personality'; Norri, 'Regional Labels'.

<sup>31</sup> Simpson and Weiner, *The Oxford English Dictionary*, lvi.

<sup>32</sup> Gilliver, 'Specialized Lexis', 1684.

<sup>33</sup> Donna Lee Berg, *A User's Guide to the Oxford English Dictionary* (Oxford, 1991), 17; see also Simpson and Weiner, *The Oxford English Dictionary*, xxvii.

<sup>34</sup> Gilliver, 'Specialized Lexis', 1680.

<sup>35</sup> Philip Durkin p.c. June 2013.

<sup>36</sup> Simpson and Weiner, *The Oxford English Dictionary*, lxvi.

<sup>37</sup> See Michela Pereira, 'Mater Medicinarum: English Physicians and the Alchemical Elixir in the Fifteenth Century', in R. French, J. Arrizabalaga, A. Cunningham, and L. García-Ballester (eds), *Medicine from the Black Death to the French Disease* (Aldershot, 1998), 26–52; Linda E Voigts, 'The Master of the King's Stillatories', in J. Stratford (ed.), *The Lancastrian Court: Proceedings of the 2001 Harlaxton Symposium* (Donington, 2003), 233–52.

<sup>38</sup> For further discussion, see Newman and Principe, 'Alchemy vs. Chemistry'.

<sup>39</sup> E.g. *MED* s.vv. *elevaten*, *auripigment*.

<sup>40</sup> E.g. *MED* s.vv. *distillen*, *drienesse*.

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<sup>41</sup> The compilers of the *MED* were evidently also uncertain about the alchemical status of some words, hence adding question marks after the label in some definitions (e.g. *MED* s.v. *temperament*). This may be a direct reflection of the *MED* project's approach to technical vocabulary, as laid down in the editorial manual (Section 13.1): '[The editor's] confessions of uncertainty, doubt, or ignorance will call attention to areas in which research by competent specialists is needed'.

<sup>42</sup> *OED* s.vv. *Mars, oil, mortify*.

<sup>43</sup> E.g. *OED* s.vv. *ablution, project* (v.), *rectify*.

<sup>44</sup> Philip Durkin (p.c. June 2013) confirms this strategy. Of course, later citations are found from historiographical textbooks and scholarly treatments of alchemy in the nineteenth and twentieth centuries, but not from journals and textbooks on chemistry, which would have indicated current use of the item.

<sup>45</sup> Philip Durkin (p.c. June 2013) confirms this conclusion.

<sup>46</sup> *MED* s.v. *adrop*.

<sup>47</sup> E.g. *MED* s.vv. *menstrue, transmuten, dragoun*.

<sup>48</sup> E.g. *OED* s.vv. *exalt, exaltation, exuberate*.

<sup>49</sup> Adams, 'Phantom Dictionaries', 111; Adams, 'The Period Dictionaries', 342–3.

<sup>50</sup> See Gareth Roberts, *The Mirror of Alchemy: Alchemical Ideas and Images in Manuscripts and Books from Antiquity to the Seventeenth Century* (London, 1994), 65–91.

<sup>51</sup> *MED* s.vv. *brid, suster, venim*.

<sup>52</sup> Cf. e.g. *MED* s.vv. *moder* and *panter(e)* and *OED* s.vv. *mother* and *panther*.

<sup>53</sup> *MED* s.vv. *degre, proporcioun, reiteraten*.

<sup>54</sup> Lewis, *Middle English Dictionary*, 14; see also Robert E. Lewis, 'The *Middle English Dictionary* at 71', *Dictionaries* 23 (2002), 76–94: 81; Adams, 'Phantom Dictionaries', 99; Adams, 'The Period Dictionaries', 326.

<sup>55</sup> Naturally, these sources are also drawn on in non-alchemical entries, which means that the sources are overall much more common in the two dictionaries than suggested here.

<sup>56</sup> As shown by George Keiser, the conclusion of the *Canon's Yeoman's Tale* was especially read as a serious work of alchemy by many alchemical practitioners; George R. Keiser, 'The Conclusion of the *Canon's Yeoman's Tale*: Readings and (Mis)Readings', *Chaucer Review*, 35 (2000), 1–21.

<sup>57</sup> McConchie, *Lexicography*, 188–9, 192.

<sup>58</sup> Brewer, *Treasure-House*, 3, 209–11.

<sup>59</sup> K. M. Elisabeth Murray, *Caught in the Web of Words: James A. H. Murray and the Oxford English Dictionary* (New Haven, 1977), 89, 139; Peter J. Grund, 'Editing Alchemical Texts in Middle English: The Final Frontier?', in A. Hudson and V. Gillespie (eds), *Probable Truth: Editing Medieval Texts from Britain in the Twenty-First Century* (Turnhout).

<sup>60</sup> Very few, if any, alchemical texts in English can be reliably dated before Chaucer and Gower, which means that antedatings are unlikely to appear for alchemical lexemes first recorded in their works.

<sup>61</sup> Hoare and Salmon, 'Vocabulary', 158.

<sup>62</sup> E.g. *MED* s.vv. *sublimacioun*, *sublimen*.

<sup>63</sup> Citations from verse had the added value for the *MED* of providing potential phonological evidence, a fact that may have influenced the privileging of verse (Michael Adams p.c. Jan, 2013). However, although this may be true in individual instances, the overwhelming emphasis on verse must be accounted for in other ways.

<sup>64</sup> *The Book of Quinte Essence*, ed. Frederick J. Furnivall, EETS, Original Series 16 (1866; rev. 1889; repr. Oxford, 1998); Dorothea W. Singer, *Catalogue of Latin and Vernacular Alchemical Manuscripts in Great Britain and Ireland, Dating from before the 16th Century*, 3 vols (Brussels, 1928, 1930, 1931).

<sup>65</sup> The *OED* also includes some citations from Singer's *Catalogue*, presumably inherited from the *MED*.

<sup>66</sup> George R. Keiser, *A Manual of the Writings in Middle English 1050–1500*, vol. 10: *Works of Science and Information* (New Haven, 1998).

<sup>67</sup> *George Ripley's Compound of Alchymy (1591)*, ed. Stanton J. Linden (Aldershot, 2001); *Thomas Norton's Ordinal of Alchemy*, ed. John Reidy, EETS, Original Series 272 (Oxford, 1975).

<sup>68</sup> E.g. *OED* s.vv. *sericon*, *mineral*.

<sup>69</sup> E.g. *OED* s.vv. *putrefy*, *menstrual*, *rotate* adj.

<sup>70</sup> Lewis, *Middle English Dictionary*, 43.

<sup>71</sup> Several of these manuscripts appear to have been mined by John Reidy, who worked as an editor at the *MED*, in the process of preparing his edition of Norton's *Ordinal*.

<sup>72</sup> Michael Adams p.c. Jan. 2013.



<sup>73</sup> Very few fifteenth-century witnesses of the two texts are extant; most manuscripts appear to date from the sixteenth and seventeenth centuries. Thomas Norton's Ordinal, ix–xxi; Jennifer Rampling, 'The Catalogue of the Ripley Corpus: Alchemical Writings Attributed to George Ripley (d. ca. 1490)', *Ambix: The Journal for the Society for the History of Alchemy and Chemistry*, 57 (2010), 125–201: 152–62.

<sup>74</sup> *OED* s.v. *athanor*.

<sup>75</sup> Martin Ruland, *Lexicon alchemiae sive dictionarium alchemisticum* (Frankfurt, 1612; repr. Hildesheim, 1964), s.v. *Edic*, *Edich*, *Ebdanic*.

<sup>76</sup> Ruland, *Lexicon*, s.v. *Azimar*.

<sup>77</sup> Ruland, *Lexicon*, s.v. *kymia*.

<sup>78</sup> Ruland, *Lexicon*, s.v. *cinericium*.

<sup>79</sup> Linda E. Voigts, 'What's the Word? Bilingualism in Late-Medieval England', *Speculum*, 71(1996), 813–26; Päivi Pahta, 'Code-Switching in Medieval Medical Writing', in I. Taavitsainen and P. Pahta (eds), *Medical and Scientific Writing in Late Medieval English* (Cambridge, 2004), 73–99. For a discussion of the *OED*'s treatment of loanwords and code-switches, see Brewer, *Treasure-House*, 199–200; McConchie, *Lexicography*, 65–66; Sarah Ogilvie, *Words of the World: A Global History of the Oxford English Dictionary* (Cambridge, 2013), e.g. 18–19 *et passim*.

<sup>80</sup> *MED* s.v. *ciren*; *OED* s.v. *cere*.

<sup>81</sup> Rudolf Hirsch, 'The Invention of Printing and the Diffusion of Alchemical and Chemical Knowledge', in R. Hirsch (ed.), *The Printed Word: Its Impact and Diffusion* (London, 1978), 115–41; Lauren Kassell, 'Secrets Revealed: Alchemical Books in Early-Modern England', *History of Science*, 49 (2011), 61–87.